Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Please amend claims 1-34 as follows:

1. (Currently Amended) A method ~~Method~~ for detecting [[the]] a shutter opening angle ~~(light or dark sector)~~ of an adjustable rotating shutter mounted in a film camera which ~~consists of~~ comprises a circular segment or circular sector shaped shutter vane driven through a shutter shaft by a shutter motor, and [[of]] a shutter adjustment vane mounted coaxial with the shutter vane and adjustable relative thereto by means of a shutter adjustment vane motor, ~~characterised in that~~ the method comprising:

detecting the position of shutter vane and the shutter adjustment vane ~~the position of the shutter vane (2) and the position of the shutter adjustment vane (3) are detected~~ during rotation of the rotatable shutter; [[(1)]] and

ascertaining the difference between the two positions ~~is formed~~ as a value, said value being representative [[for]] of the shutter opening angle ~~or the light or dark sector~~ of the rotatable shutter (1).

2. (Currently Amended) The method ~~Method~~ according to claim 1, ~~characterised in that the~~ wherein an absolute position

of the shutter vane [[(2)]] and [[the]] an absolute position of the shutter adjustment vane ~~(3) is~~ are detected with a resolution of *n* steps during one revolution of the rotatable shutter [[(1)]] and the shutter opening angle of the rotatable shutter (1) is determined from the equation

$\alpha = P_{BF} - P_{VF}$ 8 360° /n

[[with]] wherein

P_{BF} is the position of the shutter vane and

P_{VF} is the position of the shutter adjustment vane,

wherein ~~with an~~ when the value of angle α ~~which~~ is less than 0° the value is increased ~~around~~ by 360° [[so]] as long ~~until it~~ as the resulting value is greater than or equal to 0° or ~~with an~~ when the value of angle α ~~which~~ is greater than or equal to 360° the value is reduced ~~around~~ by 360° [[so]] as long ~~until it~~ as the resulting value is less than 360°.

3. (Currently Amended) The method ~~Method~~ according to claim 2, ~~characterised in that~~ wherein the absolute positions of the shutter vane [[(2)]] and the shutter adjustment vane [[(3)]] are determined [[from]] using coded sensor tracks.

4. (Currently Amended) The method ~~Method~~ according to claim 3, ~~characterised in that~~ wherein the absolute positions of the shutter vane [[(2)]] and the shutter adjustment vane [[(3)]] are detected as a sine and cosine signal per revolution of the rotating shutter [[(1)]] and the shutter opening angle of the rotating shutter [[(1)]] is determined through an arctan calculation from the sine and cosine ~~signal~~ signals.

5. (Currently Amended) The method ~~Method~~ according to ~~at least one of the preceding claims, characterised in that~~ claim 1, wherein the positions of the shutter vane [[(2)]] and the shutter adjustment vane [[(3)]] are detected incrementally, [[that]] wherein at least one ~~index or~~ reference ~~mark~~ signal is provided per revolution of the rotatable shutter [[(1)]] and [[that]] wherein the detected incremental signals are stored with the ~~appearance of~~ the reference [[mark]] signal and wherein the shutter opening angle (α) of the rotatable shutter [[(1)]] is determined from the equation

$\alpha = (Z_{BF} - Z_{VF} + K) * 360/n$

[[with]] wherein

Z_{BF} is the counter state of the shutter vane

Z_{VF} is the counter state of the shutter adjustment vane and

O is a constant off-set which is determined from the equation

$O = I_{BF} + I_{VF} + K$

[[with]] wherein

I_{BF} is the index position of the shutter vane

I_{VF} is the index position of the shutter adjustment vane and

K is a calibrating value

wherein [[with]] when the value of an angle α which is less than 0° the value is increased ~~around~~ by 360° [[so]] as long as the resulting value ~~until it~~ is greater than or equal to 0° or [[with]] when the value of an angle α ~~which~~ is greater than

equal to 360° the value is reduced ~~around~~ by 360° [[so]] as long as the resulting value ~~until it~~ is less than 360° and wherein the calibrating value (K) is a correcting value arising from the relationship of [[the]] a reference ~~marks~~ mark which is [[are]] coupled to ~~the revolutions of~~ the shutter vane [[(2)]] and a reference mark which is coupled to ~~the revolutions of~~ the shutter adjustment vane [[(3)]], wherein said reference marks are used in generating said at least one reference signal.

6. (Currently Amended) The method ~~Method~~ according to claim 1, ~~characterised in that~~ wherein [[the]] absolute positions of the shutter vane [[(2)]] and the shutter adjustment vane [[(3)]] are determined from distance-coded reference marks.

7. (Currently Amended) The method ~~Method~~ according to claim 1 ~~for detecting, adjusting and/or regulating the shutter opening angle (light or dark sector) of the rotatable shutter which is mounted in a film camera, characterised in that~~ wherein the ~~light or dark sector~~ shutter opening angle value ~~determined from the difference between the positions of the shutter vane (2) and the shutter adjustment vane (3)~~ is supplied as an actual value to a shutter adjustment vane position regulating device, ~~(12) at which~~ wherein an ideal value of the ~~light or dark sector inputted~~ shutter opening angle is manually input, ~~through an interface (15) to the camera control, is emitted and which forms from~~ wherein the difference between the ideal and actual value of the ~~light or dark sector~~ shutter opening angle is a setting variable for the shutter adjustment vane motor [[(33)]].

8. (Currently Amended) The method ~~Method~~ according to claim 1, ~~characterised in that~~ wherein the positions of the shutter vane [[(2)]] and shutter adjustment vane [[(3)]] are interpolated before ~~the formation f~~ ascertaining the difference.

9. (Currently Amended) The method ~~Method~~ according to claim 1, ~~characterised in that~~ wherein a mechanical locking or unlocking of the shutter adjustment vane [[(3)]] is ~~scanned with~~ determined by scanning at a predetermined frequency and wherein when ~~in the event of mechanical locking of~~ the shutter adjustment vane [[(3)]] is mechanically blocked, a control of the shutter adjustment vane motor [[(33)]] is blocked.

10. (Currently Amended) The method ~~Method~~ according to claim 1, ~~characterised in that~~ wherein the position ~~signals indicating the position~~ of the shutter vane, ~~(2) and~~ the position of the shutter adjustment vane (3), the ~~absolute~~ value of the ~~light or dark sector~~ shutter opening angle of the adjustable rotatable shutter [[(1)]] and [[the]] signals ~~scanning~~ relating to the mechanical locking or unlocking of the shutter adjustment vane [[(3)]] are processed [[in]] by a control logic [[(11)]].

11. (Currently Amended) The method ~~Method~~ according to claim 10, ~~characterised in that~~ wherein the control logic [[(11)]] initialises the detected positions ~~position detections~~.

12. (Currently Amended) The method ~~Method~~ according to claim 1, ~~characterised in that the~~ wherein a setting value for the shutter adjustment vane motor [[(33)]] is transferred contactlessly by [[the]] a shutter adjustment vane position

regulating device [[(12]] to the shutter adjustment vane motor [[(33)]].

13. (Currently Amended) A device ~~Device~~ for detecting the shutter opening angle ~~(light or dark sector)~~ of an adjustable rotatable shutter mounted in a film camera which ~~consists of~~ comprises a circular segment or circular sector shaped shutter vane driven through a shutter shaft by a shutter motor, and [[of]] a shutter adjustment vane mounted coaxial with the shutter vane and adjustable relative thereto by means of a shutter adjustment vane motor, the device comprising:
~~characterised by~~

- a first sensor [[(7)]] coupled to the shutter vane [[(2)]]for ~~scanning~~ sensing a position of the shutter vane ~~position~~ and emitting a shutter vane position ~~signals~~ signal;
- a second sensor [[(8)]] coupled to the shutter adjustment vane (3) for ~~scanning~~ sensing a position of the shutter adjustment vane ~~position~~ and emitting a shutter adjustment vane position ~~signals~~ signal; and
- a position counter ~~(10)charged with~~ receiving the shutter vane ~~position signals~~ and the shutter adjustment vane position signals ~~for forming~~ and ascertaining the difference between the shutter vane position ~~signals~~ signal and the shutter adjustment vane position ~~signals~~ signal.

14. (Currently Amended) The device ~~Device~~ according to claim 13, ~~characterised in that the~~ wherein the first and second sensors ~~(7, 8) consist of~~ comprise absolute angle measuring instruments with several code tracks ~~(701, 703 706)~~ mounted on a

graduated plate ~~(70b)~~ and scanning devices ~~(716, 717)~~ assigned to the code tracks ~~(701, 703-706)~~.

15. (Currently Amended) The device ~~Device~~ according to claim 14, ~~characterised in that~~ wherein the absolute angle measuring instruments ~~consist of~~ comprise absolute coders, resolvers or pole wheel sensors.

16. (Currently Amended) The device ~~Device~~ according to claim 13, ~~characterised in that~~ wherein the first and second sensors ~~(7, 8) consist of~~ comprise incremental angle measuring instruments with a periodic incremental track ~~(701)~~ mounted on a graduated plate ~~(70a)~~ and a reference mark track ~~(702)~~ which has at least one reference mark fixing [[the]] an absolute position of the graduated plate ~~(70a) and assigning this to a measuring step~~, and [[of]] scanning devices ~~(71, 715)~~ associated with the incremental and reference mark track ~~(701, 702)~~.

17. (Currently Amended) The device ~~Device~~ according to claim 16, ~~characterised in that~~ wherein the reference mark track has distance-coded reference marks on which reference marks are made with defined variable spacing.

18. (Currently Amended) The device ~~Device~~ according to at least one of claims 14 to 17, ~~characterised in that the~~ wherein the first and second sensors ~~(7, 8)~~ have graduated plates ~~(70c)~~ with ~~additional~~ sine and cosine tracks ~~(707, 708)~~ and wherein [[that]] a computing unit connected ~~in on the~~ to an output side of ~~the scanning device~~ one of said scanning devices detects ~~detecting the sensor signals of the~~ sine and cosine signals ~~is~~

~~charged with the sine and cosine signals~~ and issues arctan values calculated from the sine and cosine signals.

19. (Currently Amended) The device ~~Device~~ according to claim 13, ~~characterised in that~~ wherein the first and second sensors ~~(7, 8)~~ are ~~formed as~~ absolute or incremental angle measuring instruments [[with]] comprising photo electric, magneto resistive or permanent magnetic scanning capability.

20. (Currently Amended) The device ~~Device~~ according to claim 13 ~~for detecting, setting and/or regulating the shutter opening angle (light or dark sector) of the adjustable rotatable shutter mounted in a film camera,~~
~~characterised by~~ further comprising:

- a control logic ~~(11) charged with~~ receiving a signal relating to the difference between the shutter vane position ~~signals~~ signal and the shutter adjustment vane position ~~signals and~~ signal, wherein the control logic is connected to an interface [[(19)]] ~~for the~~ on a control of the film camera; and
- a shutter adjustment vane position regulating device ~~(12) which is charged on the~~ which receives on an input side [[with]] a signal relating the difference of the shutter vane position ~~signals~~ signal and the shutter adjustment vane position ~~signals~~ signal, ~~as well as with~~ and an ideal value issued by the control of the film camera through an interface [[(15)]] for the shutter adjustment vane [[(3)]] or for the ~~light sector (dark sector)~~ shutter opening angle of the adjustable rotatable shutter, wherein said shutter adjustment vane position regulating device outputs from an ~~(1) and on the~~ output side ~~issues~~ a setting variable for the shutter adjustment vane motor [[(33)]].

21. (Currently Amended) The device ~~Device~~ according to claim 13, ~~characterised by~~ comprising a safety scanning device ~~(9) mounted in the rotational area of the adjustable rotatable shutter (1)~~ for detecting the ~~light or dark sector~~ shutter opening angle of the adjustable rotatable shutter , wherein an output of said safety scanning device ~~(1) whose output~~ is connected to [[the]] a control logic [[(11)]] for issuing absolute values of the ~~light or dark sector~~ shutter opening angle of the adjustable rotatable shutter [[(1)]].

22. (Currently Amended) The device ~~Device~~ according to claim 20 or 21, ~~characterised in that~~ wherein the control logic [[(11)]] is connected on [[the]] an input side to a scanning device [[(14)]] for detecting [[the]] mechanical locking of the shutter adjustment vane, wherein the control logic ~~(3) and~~ blocks the control of the shutter adjustment vane motor ~~(33) in the event of~~ when ~~activated~~ mechanical locking of the shutter adjustment vane [[(3)]] is detected.

23. (Currently Amended) The device ~~Device~~ according to claim 13, ~~characterised in that the~~ wherein a shutter adjustment vane position regulating device [[(12)]] is connected through a device [[(13)]] for controlling the shutter adjustment vane motor [[(33)]] to an energy transfer device and a signal transfer device ~~(61, 62, 63, 64, 65, 68, 69)~~ for controlling ~~or feeding~~ the shutter adjustment vane motor [[(33)]].

24. (Currently amended) The device ~~Device~~ according to claim [[13]] 23, ~~characterised in that~~ wherein the shutter adjustment vane position regulating device [[(12)]] is connected

through the energy transfer device ~~(61, 62, 63)~~ to a motor amplifier [[(66)]] as well as through the signal transfer device ~~(64, 65, 68, 69)~~ to a processor [[(60)]] for controlling and regulating the shutter adjustment vane motor [[(33)]].

25. (Currently Amended) The device ~~Device~~ according to claim 24, ~~characterised in that the~~ wherein a control device of the motor amplifier [[(66)]] connected to the energy transfer device ~~(61, 62, 63)~~ is connected to a first output of the processor [[(60)]] which is connected ~~by a first input to~~ the output of an actual value measuring amplifier [[(67)]] which is connected to a potentiometer transmitter [[(34)]] coupled to the shutter adjustment vane motor [[(33)]], and [[that]] wherein a ~~each one~~ second input and output of the processor ~~(60) is~~ are connected to the ~~bi-directional~~ signal transfer device ~~(64, 65, 68, 69)~~.

26. (Currently Amended) The device ~~Device~~ according to one of the preceding claims 23 to 25, ~~characterised by~~ wherein at least one of said ~~a contactless~~ energy transfer device ~~(61, 62, 63) and/or a contactless~~ and signal transfer device ~~(64, 65, 68,~~ generates a signal and provides for the contactless transfer of said signal.

27. (Currently Amended) The device ~~Device~~ according to claim 23, ~~characterised in that~~ wherein the energy transfer device ~~(61, 62, 63) consists of~~ comprises a divided transformer [[(62)]] operated at high frequency [[and]] ~~whose~~ having a primary winding ~~(621) is~~ connected to a direct current converter [[(61)]] on [[the]] a primary side and ~~whose~~ a secondary winding

~~(622) is~~ connected to a direct current converter [[(63)]] on [[the]] a secondary side.

28. (Currently Amended) The device ~~Device~~ according to claim 23, ~~characterised in that~~ wherein the signal transfer device ~~(64, 65; 68, 69) each consists of~~ comprises an optical transmitter ~~(64, 68)~~ and an optical receptor ~~(65, 69)~~ for [[the]] bi-directional signal exchange between the shutter adjustment vane position regulating device [[(12)]] and the processor [[(60)]].

29. (Currently Amended) The device ~~Device~~ according to claim 23, ~~characterised in that~~ wherein the signal transfer device ~~consists of~~ comprises an inductive signal transfer device for the bi-directional signal exchange between the shutter adjustment vane position regulating device [[(12)]] and the processor [[(60)]].

30. (Currently amended) The device [Device] according to claim 23, ~~characterised in that~~ wherein the signal transfer device ~~consists of~~ comprises a carrier frequency signal transfer device for the bi-directional signal exchange between the shutter adjustment vane position regulating device [[(12)]] and the processor, wherein said carrier frequency signal transfer device modulates and superimposes ~~(60) with which the~~ signals ~~are modulated up with~~ to a carrier frequency [[to]] of the energy supply of the shutter adjustment vane motor [[(33)]].

31. (Currently amended) The device ~~Device~~ according to claim 13, ~~characterised in that the~~ wherein a shutter adjustment vane position regulating device [[(12)]] controls the shutter

adjustment vane motor [[(33)]] through a motor end stage [[(13)]] and a rotational connection or a slip ring [[(6)]].

32. (Currently Amended) The device ~~Device~~ according to claim 13, ~~characterised in that the~~ wherein the first and second sensors ~~(7, 8) for scanning the shutter vane position and the shutter adjustment vane position~~ are coupled to the shutter shaft [[(20)]] and [[the]] to a shutter adjustment vane shaft [[(30)]].

33. (Currently Amended) The device ~~Device~~ according to claim 13, ~~characterised in that~~ wherein the shutter shaft [([20)]] is connected to a shutter drive through gearing [[(21)]].

34. (Currently Amended) The device ~~Device~~ according to claim 13, ~~characterised in that~~ wherein the shutter adjustment vane [[(3)]] is connected to the shutter adjustment vane motor [[(33)]] through a shutter adjustment vane shaft [[(30)]] and a gearing ~~(31, 32) guided through~~ within the shutter shaft [[(20)]].